

WHAT IS CLAIMED IS:

1. An all terrain vehicle comprising a frame, an engine compartment defined within the frame, an engine mounted within the engine compartment, the engine comprising a crankcase, a transversely extending crankshaft, a transmission connected to the crankshaft, the transmission comprising a drive pulley, a driven pulley and a drive belt connecting the drive pulley and the driven pulley, the driven pulley including a fixed half and a movable half, a spring adapted to bias the movable half toward the fixed half, a transmission primary shaft connected to the drive pulley and coaxial to the crankshaft, a transmission case connected to the crankcase, a mating surface between the crankcase and the transmission case positioned within a perimeter of the driven pulley, the mating surface defining a plane substantially perpendicular to an axis of the crankshaft, wherein the drive belt is disposed on a first side of the plane, and at least a portion of the spring is disposed on a second side of the plane.

2. The all terrain vehicle of Claim 1, wherein at least one-third of the spring is disposed on the second side of the plane.

3. The all terrain vehicle of Claim 1, further comprising a spring cavity formed by the crankcase such that the spring may be disposed therein.

4. The all terrain vehicle of Claim 3, further comprising a transmission chamber, the transmission chamber being in communication with the spring cavity through an opening in the transmission case.

5. The all terrain vehicle of Claim 3, wherein the spring cavity is isolated from a crank chamber by a main shaft supporting wall.

6. The all terrain vehicle of Claim 1, wherein the transmission case is connected to the crankcase by a number of bolts such that at least a portion of the bolts are disposed within the perimeter of the movable sheave of the driven pulley.

7. The all terrain vehicle of Claim 1, wherein the transmission case defines a channel sized and configured to accommodate the movable pulley.

8. The all terrain vehicle of Claim 1, further comprising a clutch dividing wall, the clutch dividing wall having a cylindrical protuberance, and air-cooling fins extending

from a surface of the drive pulley facing the clutch dividing wall, wherein the air-cooling fins overlap the cylindrical protuberance in a direction along a longitudinal axis of the vehicle.

9. An all terrain vehicle comprising a frame, an engine compartment defined within the frame, an engine mounted within the engine compartment, the engine comprising a crankcase, a transversely extending crankshaft, a transmission connected to the crankshaft, the transmission comprising a drive pulley, a driven pulley and a drive belt connecting the drive pulley and the driven pulley, the driven pulley including a fixed half and a movable half, a spring adapted to bias the movable half toward the fixed half, a transmission primary shaft connected to the drive pulley and coaxial to the crankshaft, a transmission main shaft connected to the driven pulley, a transmission case connected to the crankcase, the crankcase including a cavity and the transmission case including an opening that corresponds with the cavity, wherein the main shaft extends through the cavity and the opening, and wherein the spring is at least partially positioned within the cavity.

10. The all terrain vehicle of Claim 9, wherein the spring is positioned such that at least one-third of the spring is within the cavity.

11. The all terrain vehicle of Claim 9, wherein the spring cavity is separated from a crank chamber by a supporting wall.

12. The all terrain vehicle of Claim 9, wherein the transmission case is attached to the crankcase by a number of bolts at least a portion of which are located within the circumference of the movable sheave.

13. The all terrain vehicle of Claim 9, wherein the transmission case defines a channel sized and configured to permit placement of the movable sheave therein.

14. The all terrain vehicle of Claim 9, further comprising a clutch dividing wall having a cylindrical protuberance, and air-cooling fins extending from a surface of the drive pulley facing the clutch dividing wall such that the air-cooling fins overlap the cylindrical protuberance in a direction along an longitudinal axis of the vehicle.

15. An all terrain vehicle comprising a frame, an engine compartment defined within the frame, an engine mounted within the engine compartment, the engine comprising a crankcase, a transversely extending crankshaft, a transmission connected to the crankshaft, the transmission comprising a drive pulley, a driven pulley and a drive belt connecting the

drive pulley and the driven pulley, the driven pulley including a fixed half and a movable half, a spring biasing the movable half toward the fixed half, a transmission primary shaft connected to the drive pulley and disposed coaxial with the crankshaft, a transmission case connected to the crankcase, a mating surface between the crankcase and the transmission case defines a plane substantially perpendicular to an axis of the crankshaft, at least a portion of the spring disposed on each side of the plane, wherein the drive belt is positioned on a first side of the plane and at least about one-third of the spring is on the second side of the plane.

16. The all terrain vehicle of Claim 15, wherein the crankcase defines a spring cavity such that the spring may be disposed therein.

17. The all terrain vehicle of Claim 16, further comprising a transmission chamber, the spring cavity being in communication with the transmission chamber.

18. The all terrain vehicle of Claim 16, wherein the spring cavity is separated from a crank chamber by a supporting wall.

19. The all terrain vehicle of Claim 15, wherein the transmission case is connected to the crankcase by a number of bolts at least a portion of which are positioned within the perimeter of the movable sheave.

20. The all terrain vehicle of Claim 15, wherein the transmission case defines a channel sized and configured to accommodate the movable pulley.

21. The all terrain vehicle of Claim 15, further comprising a clutch dividing wall, the clutch dividing wall having a cylindrical protuberance, and air-cooling fins extending from a surface of the drive pulley facing the clutch dividing wall, wherein the air-cooling fins overlap the cylindrical protuberance in a direction along a longitudinal axis of the vehicle.